ENGINEERING EVALUATION
AUTHORITY TO CONSTRUCT

Facility Name:	Cornerstone Aggregates, Inc.
Equipment Type:	Aggregate crushing and screening plant
Application Number:	APCD2023-APP-007916
Facility ID:	APCD2023-SITE-04372
Equipment Address:	332 Elkelton Place Spring Valley, CA 91977
Facility Contact:	Cody Johnson, cjohnson@cornerstoneagg.com Paul Weir, Contractor, paulweir15@gmail.com

Permit Engineer:

1/25/2024

X Priscilla Castanon

Priscilla Castanon
Jr. Air Pollution Control Engineer
Signed by: 9633941a-18e2-4f2e-adf1-2707549e5c7c

Senior Engineer Signature:

1/24/2024

X Nicholas Horres

Nicholas Horres
Senior Engineer
Signed by: NHorres

1.0 Background

1.1 Type of Application: This is an initial application for an aggregate crushing and screening plant.

1.2 Permit History: The crushing and screening equipment is new to the site and has not been previously permitted.

1.3 Facility Description: This is a new site that will be used for Crushing and Screening. The site has three (3) unapproved Certificates of Registration that were submitted to the district in August for Portable Engines. The two prime diesel engines listed under CER-001021 and -001022 are being permitted as a part of this project under APP-007917 and APP-007918. There are no active permits at the site.

1.4 Other Background Info: There is an open notice of violation, APCD2023-NOV-000832, for installing and operating a screen plant without a without District written authorization. No current Hearing Board actions; no permit denials, no legal settlements; not a Title V facility.

2.0 Process Description

2.1 Equipment Description.
Aggregate Rock Crushing and Screening Plant, 500tph, consisting of:
Jaw Crushing Plant, consisting of:
One (1) TEREX Cedarapids CRJ3054 Portable Jaw Primary plant, includes a 30" x 54" Jaw crusher, 52" x 20' vibrating Grizzly feeder, and 54" Undercrusher conveyor, S/N PC.30.54.192.05

Secondary Crushing and Screening System, consisting of:
One (1) KPI-JCI Model Kodiak K300/6203CC Wheel Mounted Crushing and Screening plant, including a 6' x 20' Triple Deck horizontal screen, S/N S051492

One (1) Feed Hopper,
One (1) Vibrating Grizzly Feeder,
Four (4) Stockpiles,
Eleven (11) Conveyor Belts

OR

Impact Crusher and Screening System, consisting of:
Powerscreen Trakpactor 320 Impact Crusher and Powerscreen Chieftain Model 2200 Triple-Deck Screen.

2.2 Equipment Description.
This Crushing and Screening plant will be used for crushing broken slabs of concrete and asphalt that will be processed into -1" material. It will be separated into three sizes of aggregate and conveyed into their respective piles.

2.3 Equipment Description.
Water spray system for the plant and on-site water trucks for haul roads and stockpiles.

2.4 Equipment Description.
Process flow diagram.

3.0 Emissions

3.1 Emissions estimate summary. Estimated emissions for the plant and individual equipment from the process are shown below.

Table 1: Estimated Post Project PTE for criteria pollutants (APP-007917)

	Emission Factor	Hourly Emissions	Daily Emissions	Annual Emissions
Compound	**g/bhp-hr**	**lbs/hr**	**lbs/day**	**tons/year**
NOx	0.07	0.13	1.54	0.19
CO	0.01	0.01	0.15	0.02
NMHC	0.01	0.03	0.31	0.04
PM	0.01	0.01	0.15	0.02
SOx	NA	0.01	0.10	0.01

Table 2: Estimated Post Project PTE for criteria pollutants (APP-007918)

Compound	Emission Factor g/bhp-hr	Hourly Emissions lbs/hr	Daily Emissions lbs/day	Annual Emissions tons/year
NOx	0.07	0.13	1.54	0.19
CO	0.01	0.01	0.15	0.02
NMHC	0.01	0.03	0.31	0.04
PM	0.01	0.01	0.15	0.02
SOx	NA	0.01	0.10	0.01

Table 3: Estimated Combined Emissions Increase (Both engines)

Compound	Hourly Emissions lbs/hr	Daily Emissions lbs/day	Annual Emissions tons/year
NOx	0.26	3.07	0.38
CO	0.03	0.31	0.04
NMHC	0.05	0.61	0.08
PM	0.03	0.31	0.04
SOx	0.02	0.20	0.02

Table 4: Estimated Post Project PTE for criteria pollutants (Additional Engine #3, 345bhp)

Compound	Emission Factor g/bhp-hr	Hourly Emissions lbs/hr	Daily Emissions lbs/day	Annual Emissions tons/year
NOx	0.11	0.09	1.02	0.13
CO	0.00	0.00	0.00	0.00
NMHC	0.02	0.02	0.20	0.03
PM	0.01	0.01	0.07	0.01
SOx	NA	0.00	0.04	0.00

Table 5: Estimated Post Project PTE for criteria pollutants (Additional Engine #4, 131bhp)

Compound	Emission Factor g/bhp-hr	Hourly Emissions lbs/hr	Daily Emissions lbs/day	Annual Emissions tons/year
NOx	0.16	0.05	0.57	0.07
CO	0.00	0.00	0.00	0.00
NMHC	0.00	0.00	0.00	0.00
PM	0.01	0.00	0.03	0.00
SOx	NA	0.00	0.01	0.00

Table 6: Estimated Combined Emissions Increase (Additional Engines #3 & #4)

Compound	Hourly Emissions lbs/hr	Daily Emissions lbs/day	Annual Emissions tons/year
NOx	0.14	1.59	0.20
CO	0.00	0.00	0.00
NMHC	0.02	0.20	0.03
PM	0.01	0.10	0.01

SOx	0.00	0.05	0.00

Table 7: Estimated Plant Emissions APCD2023-APP-007916 PM Emissions:

	Hourly Emissions	Daily Emissions	Annual Emissions
	lbs/hr	lbs/day	tons/year
Crushing, Screens, Transfer points	1.34	12.02	1.20
Haul Roads	1.5	13.22	1.32
Storage Piles	0.03	0.74	0.12

3.2 Estimated Emissions Assumptions.

- Emission factors were EPA certified emission factors
- Table 1 calculations assume full load operation per year for engine proposed under application APP-007917.
- Table 2 calculations assume full load operations per year for engine proposed under application APP-007918.
- Standard toxics emission factors for diesel engines (see method E15).
- San Diego APCD emission factors from Methods C01 through C26 for Aggregate Crushers, Methods S01 through S16 for Aggregate Screening, Methods T07 through T08 for Mineral Products Industry Transfer Points, Method R03 for Haul Roads Mineral Industry Site.
- Other standard assumptions as stated in calculation sheets
- Additional engines #3 and #4 are calculated using EPA family emissions and BHP. Calculations assume full load operations per year.
- Expected actual emissions same as PTE

3.1 Emission Calculations – See BCMS Attachments
3.2 Attachments – All application records are uploaded to BCMS.

4.0 Applicable Rules

4.1 District Prohibitory Rules

Rule 50 – Visible Emission

This Rule prohibits any person from discharging from any sources of emissions for a period of more than three minutes any air contaminant which is darker in shade than that designated as Number 1 on the Ringlemann Chart, or of such opacity as to obscure an observer's view to a degree greater than does smoke of a shade designated as number 1 on the Ringlemann chart.
With water spray, visible emission from the equipment is expected to be in compliance with this rule.

Rule 51 – Nuisance

This Rule prohibits a person from discharging from any source whatsoever such quantities of air contaminants or other materials which causes injury, nuisance or annoyance to the public or which causes damage to business or property.
With water spray, no nuisance complaints are expected from this equipment.

Rule 54 – Dust and Fumes

For a source with process weight higher than 60000 lb per hour or more, dust and fumes discharged into the atmosphere shall not exceed 40 lbs/hour.
The maximum particulate emission from this crushing/screening plant is 2.87 lbs/hour.

Rule 55 – Fugitive Dust Control
The provisions of this rule shall apply to any commercial construction or demolition activity capable of generating fugitive dust emissions, including active operations, open storage piles, and inactive disturbed areas. Activities subject to this regulation are also subject to the applicable requirements of Rule 50 (Visible Emissions) and Rule 51 (Nuisance).
With water spray, fugitive dust from crushing and open storage piles are expected to be in compliance with this rule.

4.2 New Source Review (NSR) Rule 20.1-20.4
Rule 20.1 – New Source Review - General Provisions
Federal Major Stationary Source: Rule 20.1(c) Definitions (30) defines Major Stationary Source as any emission unit, project or stationary source which has, or will have after issuance of an Authority to Construct or modified Permit to Operate, an aggregate potential to emit one or more air contaminants in amounts equal to or greater than any of the emission rates listed in Table 5.

Major Stationary Source: Rule 20.1(c) Definitions (41) defines major stationary source as any emission unit, project or stationary source which has, or will have after issuance of an Authority to Construct or modified Permit to Operate an aggregate potential to emit one or more air contaminants, including fugitive emissions, in amounts equal to or greater than any of the emission rates listed in Table 5.

Table 5: Classification of Major/PSD Source and Modification New Source Review (NSR) Requirements

	NOx	**VOC**	**PM-10**	**PM-2.5**	**SOx**	**CO**	**Lead**
Major Source Threshold (ton/year)	*50*	*50*	*100*	*100*	*100*	*100*	*100*
Major Source? (yes/no)	***No***	***No***	***No***	***No***	***No***	***No***	***No***
Major Modification Threshold (ton/year)	*25*	*25*	*15*	*10*	*40*	*100*	*0.6*
Major Modification at a Major Source?	***No***	***No***	***No***	***No***	***No***	***No***	***No***
Contemporaneous Calculations Performed?	**No**	**No**	**No**	**No**	**No**	**No**	**No**
Federal Major Stationary Source Threshold (ton/year) (Severe non-attainment status)	25	25	100	100	100	100	100
Federal Major Stationary Source?	**No**	**No**	**No**	**No**	**No**	**No**	**No**
Federal Major Modification Threshold (ton/year) (Severe non-attainment status)	*25*	*25*	*15*	*10*	*40*	*100*	*0.6*
Federal Major Modification?	***No***	***No***	***No***	***No***	***No***	***No***	***No***
Contemporaneous Net Calculations Performed	***No***	***No***	***No***	***No***	***No***	***No***	***No***
PSD Threshold (ton/year)	*250*	*250*	*250*	--	*250*	*250*	--
PSD Modification Threshold (ton/year)	*40*	*40*	*15*	--	*40*	*100*	*0.6*
PSD New or Modification?	**No**	**No**	**No**	**No**	**No**	**No**	**No**

This site is considered a non-major stationary source, for each pollutant, as shown in the preceding table and the emission calculation section, and is therefore subject to District Rule 20.2. Calculation of emissions and determination of applicable requirements is performed in accordance with District Rule(s) 20.1 through 20.3. District Rule 20.2 contains requirements for

Best Available Control Technology (BACT), Air Quality Impact Assessment (AQIA), Prevention of Significant Deterioration (PSD) and public notification.

Best Available Control Technology

Rule 20.2(d) Standards (1) Best Available Control Technology (i) requires any new or modified emission unit with a post-project potential to emit of 10 lbs per day or more of particulate matter (PM), NOx, VOC, SOx to be equipped with Best Available Control Technology (BACT) for each such air contaminant.

The emissions from the crushing/screening plant exceed 10 lbs/day for PM10. Previous BACT determinations for other projects were reviewed and are summarized below to establish BACT requirements for each piece of equipment.

BACT requirements for PM10 for aggregate crushing and screening plant include baghouses venting jaw crushers, cone crushers and material transfer points adjacent to and after these items, and water sprays at other material transfer points. Cost effectiveness calculation for other similar plants shows that these control measures are not cost effective. A similar such plant that was analyzed for cost effectiveness was reviewed under APCD2015-APP-004182. The table below shows the results of this analysis.

Equipment	Control Tech.	Annualized Cost	Emissions Reduced (lb/yr)	Cost Effectiveness ($/lb)
Cone Crusher, wet, 600 tph	Baghouse	$32,295	336.3	$96.03
Cone Crusher, wet, 500 tph	Baghouse	$32,295	280.25	$115.24
Transfer points, various wet+dry	Baghouse	$32,295	1320.5	$24.46
Screen, wet, 500 tph	Covered Screen	$6,339.38	255	$24.86
Screen, wet, 500 tph	Water+Surfactant	$17,712	607	$29.18
Crusher, wet, 600 tph	Water+Surfactant	$12,712	265.5	$47.88
Transfer points, various wet+dry	Water+Surfactant	$12,712	695	$18.29
Transfer points, various wet+dry	Fogging	$11,070	695	$15.93

What this shows is that when analyzed incrementally considering that water spray/wet material is already employed, enhanced controls beyond watering are not cost effective (PM cost effectiveness is $5/lb).

Since the next most stringent technology is water sprays sufficient to be considered wet material, water sprays for crusher, screen and conveyors are considered satisfying San Diego APCD BACT requirements.

In addition, the facility employs water spray/added moisture and 2-hour haul road watering for associated emission sources (stockpiles and haul roads). These are typically considered the top control options for these sources for PM and will be implemented through conditions such as:

a. *Stockpiles: water spray or added moisture is considered satisfying BACT for stockpiles.*

b. *Haul roads: watering every 2 hours is considered satisfying BACT for haul roads.*

This crushing/screening plant has water spray for the crusher, screen and stockpiles, and haul road watering every two hours, therefore, it satisfies BACT requirement for PM.

While the engines are not subject to BACT requirements as they are considered separate emission units for BACT purposes, the use of Tier 4 engines would satisfy BACT requirements.

Air Quality Impact Analysis
Rule 20.2 (d)(2)(i) requires any new project which results in an emission increase equal to or greater than any of the amounts listed below to perform an Air Quality Impact Analysis. Area fugitive emissions of PM10 are not included in the demonstration.

Particulate Matter (PM): 100 lbs/day, 15 tpy
NOx: 25 lbs/hour, 250 lbs/day, 40 tpy
SOx: 25 lbs/hour, 250 lbs/day, 40 tpy
CO: 100 lbs/hour, 550 lbs/day, 100 tpy
Lead and lead compounds: 3.2 lbs/day, 0.6 tpy

This project does not trigger AQIA.

3. Prevention of Significant Deterioration (PSD)
Rule 20.2(d)(3) requires the Air Pollution Control Officer to not issue an Authority to Construct or modified Permit to Operate for any emission unit or project which is expected to have a significant impact on any Class I area, as determined by an AQIA, without satisfying the requirements for Federal Land Manager and Federal EPA notification as well as ARB, SCAQMD and Imperial County APCD Notification.
The emissions from this plant do not trigger PSD requirements.

4. Public Notice and Comment
Rule 20.2 (d)(2) requires any emission unit or project subject to the AQIA or notification requirements or for any emission unit or project which results in an emissions increase of VOCs equal to or greater than 250 pounds per day or 40 tons per year to: (A) provide the public with notice of the proposed action in the manner prescribed by Subsection (d)(4)(iii), and (B) provide a copy of the public notice to the federal EPA Administrator, through its Region 9 office, to the California ARB and to any tribal air pollution control agencies having jurisdiction in the San Diego Air Basin, and (C) make available for public inspection all information relevant to the proposed action as specified in Subsection (d)(4)(iv), and (D) provide at least a 30-day period within which comments may be submitted to go through a 30-day public notice and comment period for any applications which require an AQIA under Sections d(2) or d(3).
Since AQIA is not required, this requirement is not applicable.

4.3 Toxic New Source Review
Rule 1200 applies to any new, relocated, or modified emission unit which results in any increased emissions of one or more toxic air contaminant(s), and for which an Authority to Construct or Permit to Operate is required.
Rule 1200 (d) Standards (1) Cancer Risk (ii) T-BACT Applied: requires that the maximum cancer risk increase to be equal or less than 10 in one million for any project.

Rule 1200 is applicable as there is an increase in hourly or yearly emissions. This project is T-BACT for the reasons presented in the BACT calculation section and the following:
The haul roads are subject to the most stringent condition limiting emissions and can be achieved through a variety of means such as watering and chemical stabilization.

The most stringent control for the engines would be electrification. However, this is not technologically feasible at this time for this project because the equipment needs to be able to be moved routinely. The next highest level of control are tier 4 engines which are proposed and therefore meet T-BACT.

Aggregate equipment (crushers, screens, conveyors) are subject to the opacity standards of NSPS OOO for new equipment and since no higher levels of control are expected to be feasible and these targets can be achieved through the proposed high pressure water sprays, the equipment meets T-BACT requirements.

Finally, other fugitive emission sources are subject to 20% opacity limits and watering requirements. No higher levels of control were identified for these sources and the permit will also provide for conditions that would further restrict PM emissions (via opacity as a proxy), if it is demonstrated that the proposed T-BACT controls achieve these reductions.
This means that the increase in maximum incremental cancer risk at every receptor location must be equal to or less than 10 in one million, and equal to or less than 1 for Chronic and Acute.

Estimated Maximum Risk Levels:

Maximum Individual Cancer Risk (Resident)	8.77 in one million
Maximum Individual Cancer Risk (Worker)	1.00 in one million
Chronic Noncancer Health Hazard Index (Resident)	= 0.378
Chronic Noncancer Health Hazard Index (Worker)	= 0.608
Acute Health Hazard Index (PMI)	= 0.316

The initial HRA did not show results below 10 in one million, and therefore results were reanalyzed, including the assumption that no operation would occur between 6 PM and 6 AM. After reanalysis, this project meets Rule 1200 standards. Permit conditions will require that no operation occurs between 6 PM and 6 AM, and will require records to substantiate this. The proposed secondary plant will not increase emissions the analyzed risk, as it will operate with lower emitting diesel engines and operate in place of the primary plant with a lower annual throughput.

4.4 AB3205
Requirements in the California Health and Safety Code in sections 42301.6 through 42301.9 (a.k.a. "AB3205 requirements") specify that prior to issuing an authority to construct for sources located within 1000 feet of a K-12 school, a 30-day public notification process must be conducted.
This project is located within 1000 feet of a school, so a public notice is required for this section. This section shall remain open for comments received.

4.5 NESHAPS, NSPS and ATCMs –
ATCM – Rock crushing/screening plants are not subject to ATCM.

NSPS – 40 CFR Part 60 Subpart OOO: Standards of Performance for Nonmetallic Mineral Processing Plants
Applicability: Section §60.670(a) includes fixed or portable crusher, screening operation, belt conveyor as nonmetallic mineral processing facilities affected by the requirements of this subpart. Section §60.670(c)(2) exempts portable sand gravel plants and crushed stone plants with capacities of 150 tons per hours or less.
This crushing/screening plant is rated 500 tph, therefore, it is subject to this subpart.

Standard for Particulate Matter (PM):
Section §60.672(b) provides limits for facilities without capture systems. Limits apply based on the facility's date of construction, modification, or reconstruction. Note that the fugitive limits of §60.672(b) also apply to emissions escaping a capture system. Permit conditions will specify the appropriate limits.

Fugitive Emission Limits

Date of Construction, modification, or reconstruction	All affected facilities except crushers without capture systems	Crushers without capture systems	Demonstration Method
> 8/31/1983 < 4/22/2008	10 %	15%	Initial performance test.
≥ 4/22/2008	7%	12%	Initial performance test. Periodic water spray inspection Repeat performance test for systems using water spray.

This plant was constructed after April 22, 2008. The requirements of this section are included with the permit conditions.

Monitoring of Operations:
Section §60.674(b) requires facilities that commence construction, modification, or reconstruction on or after April 22, 2008 that uses wet suppression to control emissions from the affected facility to perform monthly periodic inspections to check that water is flowing to discharge spray nozzle in the wet suppression system. The owner or operator must initiate corrective action within 24 hours and complete corrective action as expediently as practical if the owner or operator finds that water is not flowing properly during an inspection of the water spray nozzles. The owner or operator must record each inspection of the water spray nozzles, including the date of each inspection and any corrective actions taken, in the logbook required under §60.676(b).
This requirement is included with the permit conditions.

Test Method and Procedures:
Section §60.675(b)(2) requires that Method 9 of Appendix A-4 of this part and the procedures in §60.11 be used to determine opacity.

This requirement is included with the permit conditions.

Records and Notifications:
Section §60.676(b)(1) requires that owners or operators of affected facilities (as defined in §60.670 and §60.6701) for which construction, modification, or reconstruction commenced on or after April 22, 2008 must record each periodic inspection required under §60.674(b) (for wet suppression system) and §60.674(c) (for baghouse visible emissions) and visible emissions, including dates and any corrective actions taken, in a logbook (in written or electronic format). The owner or operator must keep the logbook on site and make hard or electronic copies (whichever is requested) of the logbook available to the Administrator upon request.
This requirement is included with the permit conditions.

Section §60.676(f) requires the owners and operators of any affected facility to submit written reports of the results of all performance tests conducted to demonstrate compliance with the standards set forth in §60.672 of this subpart, including reports of any opacity observations made using Method 9.
This requirement is included with the permit conditions.

Section §60.676(i) requires that a notification of the actual date of initial startup of each facility, be submitted to the Administrator.
This requirement is included with the permit conditions.

Section §60.676(i)(2) requires that for portable aggregate processing plants, the notification of the actual date of initial startup shall include both the home office and the current address or location of the portable plant.
This requirement is included with the permit conditions.

Section §60.676(k) states that notifications and reports required under this subpart and under subpart A of this part to demonstrate compliance with this subpart need only to be sent to the EPA Region of the State which has been delegated authority according to §60.4(b).

4.6 Title V – This is not a Title V site.

4.7 Attachments –Authority to Construct, Emission Calculation, Toxic HRA report.

5.0 RECOMMENDATION

This crushing/screening plant is expected to comply with all the applicable rules and regulations with the proposed modification. An Authority to Construct is recommended.

6.0 RECOMMENDED CONDITIONS

Conditions listed below are recommended.

1. NEW-Throughput: The maximum throughputs for this plant shall not exceed an average of 500 tons per hour, 4500 tons per day and 900,000 tons per calendar year.
Daily and annual throughput records demonstrating compliance with these limits shall be maintained in a logbook on site and made available upon request (Rule 20.2, Rule 1200).

2. New- 12 hr: This plant shall not operate between the hours of 6PM to 6AM.

Records demonstrating compliance with these limits shall be maintained in a logbook on site and made available upon request. (Rule 1200)

3. C30439: Stockpiles shall be watered so as to prevent visible dust emissions from exceeding the standards of Rule 50.

4. C43304: The maximum speed of all traffic at the site shall not exceed 10 miles per hour. Speed limits shall be posted at appropriate locations at the site to ensure compliance.

5. C45046: To control particulate emissions from haul roads, the owner or operator shall operate in accordance with either a) or b):
a) There shall be no visible emissions (0% opacity) eight feet above haul roads or,
b) Haul roads shall be watered at 2 hour intervals during any time the plant is in operation, unless the road surface appears wet. A log containing the dates and times of haul road watering shall be maintained on-site and made available to District personnel upon request. If the road surface is found visibly wet it shall be logged as ""visibly wet" in lieu of entering the two hour interval watering in the log. [NSR, Rule 1200]

6. NEW-records: The permittee shall also maintain the following operation and throughput records:
a. Identification of which equipment is in operation under this permit on that day.
b. Daily haul road and aggregate pile dust suppressant and water treatment times.
c. Plant Daily records of average hourly throughput (daily tons/equipment operating hours per day).
d. Plant Daily throughput (tons/day)
e. Plant daily hours of equipment operation.
f. Plant Annual throughput (tons/year)
(Rule 20.2, Rule 1200)
7. C28414: The equipment described above shall not cause or contribute to a public nuisance. (Rule 51)

8. C1357: Applicant shall not cause or allow the emission of fugitive dust from any transport, handling or storage activity for which such dust remains visible in the atmosphere beyond the property line of the emission source. This Condition shall not apply when the wind speed instantaneously exceeds 25 mph or when the wind speed averages or 15 minutes is greater than 15 mph. (Rule 55)

9. C44255: Water spray for dust control shall be in use at all times the plant is operating. The water spray shall be used on all material transfer points, except for material transfer points where carryover from upstream water sprays is sufficient to ensure the equipment complies with all visible emission requirements of this permit. [Rule 20.2]

10. C44610: The owner or operator shall conduct monthly inspections of the water spray system to check that water is flowing to discharge spray nozzles in the wet suppression system. The owner or operator shall complete corrective actions within 24 hours if it is found that water is not flowing properly. Records of these inspections, including the date of each inspection and any

corrective actions taken shall be maintained and made available upon request (40 CFR Part 60 Subpart OOO).

11. C45944: The opacity of visible emissions shall not exceed any of the following limits for any plant operated under this authorization. Observations shall be based on a minimum of three 6-minute averages determined using EPA method 9, unless otherwise noted. For facilities that operate intermittently observations should begin and end based on the process cycle, noted on the observation form that it is an intermittent source, and observations continued until two 6-minute observation sets are recorded.
a. Screens and material transfer points without capture systems, including transfer to storage piles (except truck dumping to hoppers): 7% opacity
b. Crushers without capture systems and fugitive emissions from crushers with capture systems: 12% opacity
c. Stack emissions from facilities with capture systems: no visible emissions as determined using EPA method 22, unless documentation is maintained that a different standard was established during initial performance testing, in which case the limit established during the initial test shall be the limit.
[40 CFR 60 subpart OOO]

12. C45929: The permittee shall maintain the following records:
a. Records substantiating compliance with the reporting requirements of:
- 40 CFR 60.676(f) for results of all performance tests conducted to demonstrate compliance with the standards set forth in Subsection 60.672, including reports of opacity observations made using Method 9, and
- 40 CFR 60.676 (i) for the actual initial startup date of each affected facility.
b. Records substantiating compliance with the periodic inspections of the water spray system and the quarterly 30-minute visible emissions inspections (for facilities with capture systems), including the date of each inspection and any corrective actions taken.
These records shall be maintained in a logbook on-site as long as the applicable equipment is located on site. The logbook shall be made available, in either hard copy or electronic copy (whichever is requested) upon request, in accordance with Subsection 60.676(b) of 40 CFR Part 60 Subpart OOO [40 CFR Part 60 Subpart OOO].

13. C44319: All required records for this operation shall be maintained on site for at least three (3) years and shall be made available to the District upon request.

14. CHW001: Access, facilities, utilities and any necessary safety equipment for source testing and inspection shall be provided upon request of the Air Pollution Control District.

15. CHW002: This Air Pollution Control District Permit does not relieve the holder from obtaining permits or authorizations required by other governmental agencies.

16. CHW003: The permittee shall, upon determination of applicability and written notification by the District, comply with all applicable requirements of the Air Toxics "Hot Spots" Information and Assessment Act (California Health and Safety Code Section 44300 et seq.)

ENGINEERING EVALUATION
AUTHORITY TO CONSTRUCT

Facility Name:	Cornerstone Aggregates, Inc.
Equipment Type:	Primary Diesel Engine
Application #:	APCD2023-APP-007917, -007918
ID#:	APCD2023-SITE-04372
Equipment/Facility Address:	332 Elkelton Place Spring Valley, CA 91977
Facility Contact:	Cody Johnson, cjohnson@cornerstoneagg.com Paul Weir, Contractor, paulweir15@gmail.com

Permit Engineer:

1/25/2024

X Priscilla Castanon

Priscilla Castanon
Jr. Air Pollution Control Engineer
Signed by: 9633941a-18e2-4f2e-adf1-2707549e5c7c

Senior Engineer:

1/24/2024

X Nicholas Horres

Nicholas Horres
Senior Engineer
Signed by: NHorres

1.0 Background

1.1 Type of Application: These are initial applications for Prime diesel engines which will operate as the direct drive power system for the Primary and Secondary plant at the site.
1.2 Permit History: The engines are new to the site and are not previously permitted. They were submitted under a Certificate of Registration as portable engines for the site. Cornerstone has asked for a flex permit to operate the secondary plant in lieu of the primary plant 40% of the time, which operates at a lower throughput and will result in lower emissions. The two alternative engines will be operated when the secondary plant is in use.
1.3 Facility Description: This is a new site that will be used for Crushing and Screening. The site has three (3) unapproved Certificates of Registration that were submitted to the district in August for Portable Engines. The same engines are being permitted under these two applications. There are no active permits at the site.
1.4 Other Background Info: There is an open notice of violation, APCD2023-NOV-000832, for installing and operating a screen plant without a without District written

authorization. No current Hearing Board actions; no permit denials, no legal settlements; not a Title V facility.

2.0 Process Description

2.1 Equipment Description.

APCD2023-APP-007917 Description
Prime Diesel Engine #1 (ATCM Portable):
Manufacturer: Caterpillar,
Model: C18,
S/N CM800849,
Maximum Rated Horsepower: 779 BHP,
Model Year 2021,
EPA Certification: Tier 4 Final,
Engine Family MCPXL18.1HTH,
Driving a 500-kW electrical generator,
Vertical exhaust, 16 feet above ground.
OR
Any Tier 4 Final diesel engine up to 779 bhp, with a PM emission factor/rate meeting the requirements specified in this permit. of no greater than 0.01 lbs/hr.

APCD2023-APP-007918
Prime Diesel Engine #2 (ATCM Portable):
Manufacturer: Caterpillar,
Model: C18,
S/N CM800834,
Maximum Rated Horsepower: 779 BHP,
Model Year 2021,
EPA Certification: Tier 4 Final,
Engine Family MCPXL18.1HTH,
Driving a 500-kW electrical generator,
Vertical exhaust, 16 feet above ground.
OR
Any Tier 4 Final diesel engine up to 779 bhp, with a PM emission factor of no greater than 0.01 lbs/hr.

2.2 Process Description.

These are diesel powered engines that will power electrical generators to be used to power the aggregate crushing and screening plant operations.

2.3 Emissions Controls.

These are Tier 4 final certified diesel engines.

2.4 Attachments.

Generator specification sheet EPA/ARB certification provided in the application.

3.0 Emissions

3.1 Emissions estimate summary. Estimated emissions for the plant and individual equipment from the process are shown below.

Table 1: Estimated Post Project PTE for criteria pollutants (APP-007917, 779bhp)

	Emission Factor	Hourly Emissions	Daily Emissions	Annual Emissions
Compound	g/bhp-hr	lbs/hr	lbs/day	tons/year
NOx	0.07	0.13	1.54	0.19
CO	0.01	0.01	0.15	0.02
NMHC	0.01	0.03	0.31	0.04
PM	0.01	0.01	0.15	0.02
SOx	NA	0.01	0.10	0.01

Table 2: Estimated Post Project PTE for criteria pollutants (APP-007918, 779bhp)

	Emission Factor	Hourly Emissions	Daily Emissions	Annual Emissions
Compound	g/bhp-hr	lbs/hr	lbs/day	tons/year
NOx	0.07	0.13	1.54	0.19
CO	0.01	0.01	0.15	0.02
NMHC	0.01	0.03	0.31	0.04
PM	0.01	0.01	0.15	0.02
SOx	NA	0.01	0.10	0.01

Table 3: Estimated Combined Emissions Increase (Combined 779bhp engines)

	Hourly Emissions	Daily Emissions	Annual Emissions
Compound	lbs/hr	lbs/day	tons/year
NOx	0.26	3.07	0.38
CO	0.03	0.31	0.04
NMHC	0.05	0.61	0.08
PM	0.03	0.31	0.04
SOx	0.02	0.20	0.02

Table 4: Estimated Post Project PTE for criteria pollutants (Additional Engine #3, 345bhp)

	Emission Factor	Hourly Emissions	Daily Emissions	Annual Emissions
Compound	g/bhp-hr	lbs/hr	lbs/day	tons/year
NOx	0.11	0.09	1.02	0.13
CO	0.00	0.00	0.00	0.00
NMHC	0.02	0.02	0.20	0.03
PM	0.01	0.01	0.07	0.01
SOx	NA	0.00	0.04	0.00

Table 5: Estimated Post Project PTE for criteria pollutants (Additional Engine #4, 131bhp)

	Emission Factor	Hourly Emissions	Daily Emissions	Annual Emissions
Compound	g/bhp-hr	lbs/hr	lbs/day	tons/year
NOx	0.16	0.05	0.57	0.07

CO	0.00	0.00	0.00	0.00
NMHC	0.00	0.00	0.00	0.00
PM	0.01	0.00	0.03	0.00
SOx	NA	0.00	0.01	0.00

Table 6: Estimated Combined Emissions Increase (Additional Engines #3 & #4)

Compound	Hourly Emissions lbs/hr	Daily Emissions lbs/day	Annual Emissions tons/year
NOx	0.14	1.59	0.20
CO	0.00	0.00	0.00
NMHC	0.02	0.20	0.03
PM	0.01	0.10	0.01
SOx	0.00	0.05	0.00

Table 7: Estimated Plant Emissions APCD2023-APP-007916 PM Emissions:

	Hourly Emissions lbs/hr	Daily Emissions lbs/day	Annual Emissions tons/year
Crushing, Screens, Transfer points	1.34	12.02	1.20
Haul Roads	1.5	13.22	1.32
Storage Piles	0.03	0.74	0.12

3.2 Estimated Emissions Assumptions.

- Emission factors were EPA certified emission factors
- Table 1 calculations assume full load operation per year for engine proposed under application APP-007917.
- Table 2 calculations assume full load operations per year for engine proposed under application APP-007918.
- Standard toxics emission factors for diesel engines (see method E15).
- San Diego APCD emission factors from Methods C01 through C26 for Aggregate Crushers, Methods S01 through S16 for Aggregate Screening, Methods T07 through T08 for Mineral Products Industry Transfer Points, Method R03 for Haul Roads Mineral Industry Site.
- Other standard assumptions as stated in calculation sheets
- Additional engines #3 and #4 are calculated using EPA family emissions and BHP. Calculations assume full load operations per year.
- Expected actual emissions same as PTE

3.3 Emissions Calculations.

Calculations were performed using the attached spreadsheets using standard calculation methods.

3.4 Attachments.

Emission Calculations.

4.0 Applicable Rules

4.1 District Prohibitory Rules

Rule 50 – Visible Emission

This Rule prohibits any person from discharging from any sources of emissions for a period of more than three minutes any air contaminant which is darker in shade than that designated as Number 1 on the Ringlemann Chart, or of such opacity as to obscure an observer's view to a degree reater than does smoke of a shade designated as number 1 on the Ringlemann chart.
Each engine is expected to be in compliance with this rule.

Rule 51 – Nuisance

This Rule prohibits a person from discharging from any source whatsoever such quantities of air contaminants or other materials which causes injury, nuisance or annoyance to the public or which causes damage to business or property.
Each engine is certified tier 4 final, no nuisance complaints are expected for these engines.

Rule 53 – Specific Air Contaminants

Sulfur compounds subsection (d)(1) of this rule prohibits a source from discharging into the atmosphere sulfur compounds calculated as SO2 in excess of 0.05 percent by volume on a dry basis. Particulate Matter subsection (d)(2) of this rule prohibits a source from discharging into the atmosphere combustion particulate matter in excess of 0.10 grain per dry standard cubic foot of gas which is standardized to 12 percent of CO2 by volume.
With the use of CARB Diesel fuel, the engines are expected to comply with these requirements.

Rule 69.4.1 – Stationary Reciprocating Internal Combustion Engines – Best Available Retrofit Control Technologies.

Rule 69.4.1 (a) Applicability (1) indicates that except as provided in Section (b) on Exemptions, this rule applies to stationary internal combustion engines with a brake horsepower (bhp) rating of 50 or greater.
Each engine is rated above 50 bhp. Definitions as provided below indicate that these engines are subject to Rule 69.4.1:

69.4.1 (c) Definitions (33) defines "Stationary Internal Combustion Engine" or "Engine" as a spark or compression ignited, reciprocating internal combustion engine which is not a portable emission unit.

69.4.1 (c) Definitions (27) defines a "Portable Emission Unit" as the same as defined in Rule 20.1 – New Source Review (NSR) – General Provisions.

20.1 (c) Definitions (57) "Portable Emission Unit" means an emission unit that is subject to the permit requirements of Rule 10 of these Rules and Regulations, and is designed to be and capable of being carried or moved from one location to another. Indicia of portability include, but are not limited to, wheels, skids, carrying handles, dolly, trailer or platform. For the purposes of this regulation, dredge engines on a boat or barge are considered portable. An emission unit is not portable if any of the following apply:

(i) The unit, or its replacement, is attached to a foundation or, if not so attached, will reside at the same location for more than 12 consecutive months. Any portable emission unit such as a backup or standby unit that replaces a portable emission unit at a location and is intended to perform the same function as the unit being replaced will be included in calculating the consecutive time period. In that case, the cumulative time of all units, including the time between the removal of the original unit(s) and installation of the replacement unit(s), will be counted toward the consecutive time period; or
(ii) The emission unit remains or will reside at a location for less than 12 consecutive months if the unit is located at a seasonal source and operates during the full annual operating period of the seasonal source. A seasonal source is a stationary source that remains in a single location on a permanent basis (i.e., at least two years) and operates at that single location at least three months each year; or
(iii) The emission unit is moved from one location to another in an attempt to circumvent the portable emission unit residence time requirements.
Days when portable emission units are stored in a designated holding or storage area shall not be counted towards the above time limits, provided the emission unit was not operated on that calendar day except for maintenance and was in the designated holding or storage area the entire calendar day. The Air Pollution Control Officer may determine, on a case-by-case basis, that emission units which exceed the above time limits will be considered as relocated equipment and will be subject to the applicable requirements for relocated emission units contained in Rules 20.1, 20.2 and 20.3.
Each engine is used as an integral part of the stationary source, so it does not qualify for portable registration under Rule 12.1(b)(3). Therefore, each engine will be evaluated to meet Rule 69.4.1 Stationary Engines requirements.

Rule 69.4.1 (d) Standards (1) (ii) (D) requires new or replacement non-emergency diesel fueled engines to meet the following emission standards:

(D) New or Replacement Non-Emergency Engines – Diesel Fuel

Engine Type	Concentration of NOx (g/bhp-hr)	Concentration of NMHC (g/bhp-hr)	Concentration of CO (g/bhp-hr)
Certified engines using diesel fuel, 50 ≤ bhp < 75	3.5	N/A	3.7
Certified engines using diesel fuel, 75 ≤ bhp < 175	0.3	0.14	3.7
Certified engines using diesel fuel, 175 ≤ bhp < 750	0.3	0.14	2.6
Certified engines using diesel fuel, bhp ≥ 750	2.6	0.14	2.6
Certified generator sets using diesel fuel, bhp ≥ 750	0.5	0.14	2.6

Each engine operating under this permit is certified using diesel fuel and meet the emission standards based on their respective rated horsepower. See Tables 1, 2, 4, and 5.

Rule 69.4.1 (d) Standards (2) requires any engine subject to this rule and operating on diesel fuel to use only California Diesel Fuel.
Each engine is only authorized to use CARB diesel fuel.

Rule 69.4.1 (e) Monitoring Requirements (1) requires an owner or operator of an engine without add-on control equipment, except engines specified in Subsections (b)(3) or (b)(4), to monitor the operating parameters recommended by the engine manufacturer and any additional operating parameters identified by the Air Pollution Control Officer. Such operating parameters may include, but are not limited to:
(i) engine air-to-fuel ratio;
(ii) engine inlet manifold temperature and pressure; and
(iii) oxygen content of the exhaust gas.
Where the Air Pollution Control Officer determines that it is not feasible to monitor operating parameters of an engine or such monitoring may not be indicative of air contaminant emissions, the requirements of this subsection may be waived provided that periodic inspection and maintenance are conducted as specified in Section (f) – Inspection and Maintenance Requirements.
Each engine is Tier 4 Final certified with manufacturer installed add-on equipment. Since the engines have add-on control equipment, this section is not applicable.

Rule 69.4.1 (e) Monitoring Requirements (2) requires an owner or operator of an engine with add-on control equipment, except engines specified in Subsections (b)(3) or (b)(4), to install, operate and maintain in calibration, devices that continuously monitor the operational characteristics of the engine and any NOx emission reduction system as determined necessary to ensure compliance by the Air Pollution Control Officer. Such operational characteristics shall include, but are not limited to:
(i) engine air-to-fuel ratio;
(ii) temperature of exhaust gas at the inlet and outlet of the add-on control equipment;
(iii) oxygen content of exhaust gas at the inlet and outlet of the add-on control equipment; or
(iv) flow rate of NOx reducing agent added to the engine exhaust gas.
* Rule 69.4.1 (b) Exemptions (5) states that the provisions of Subsection (e)(2) shall not apply to any engine with manufacturer installed add-on control equipment and certified with such equipment by the Environmental Protection Agency (EPA).
Each engine is Tier 4 Final certified with manufacturer installed add-on control equipment and complies with the emissions levels of this rule, exemption (b)(5) applies, the engines are exempt from the requirement of Subsection (e)(2).

Rule 69.4.1 (e) Monitoring Requirements (3) requires an owner or operator of an engine subject to this rule to install, and maintain in good working order, a non-resettable totalizing fuel meter and/or non-resettable meter that measures elapsed operating time as determined appropriate by the Air Pollution Control Officer. If an engine hour meter is replaced, the owner or operator shall notify the Air Pollution Control Officer in accordance with Subsection (g)(7).
Each engine has an hour meter. Requirements for hour meter replacement are included with permit conditions.

Rule 69.4.1 (e) Monitoring Requirements (4) requires an owner or operator of a new or replacement non-emergency gaseous-fueled engine rated at 1,000 bhp or greater and permitted to operate more than 2,000 hours per calendar year to install, operate, and maintain a Continuous Emissions Monitoring System (CEMS) for NOx and CO.
None of the proposed engines are rated above 1000 bhp and do not use gaseous fuel, therefore, they are not subject to this requirement.

Rule 69.4.1 (e) Monitoring Requirements (5) requires an owner or operator of a non-emergency gaseous-fueled engine, except engines specified in Subsections (b)(3)(ii), (b)(4)(ii) or (e)(4), to have a trained operator use a portable analyzer to take NOx and CO emission readings.
None of the proposed engines are gaseous fueled, therefore, they are not subject to this requirement.

Rule 69.4.1 (f) Inspection and Maintenance Requirements (1) requires an owner or operator of an engine subject to this rule, except engines specified in Subsections (b)(3), (b)(4), (e)(4) or (e)(5), to conduct periodic inspections of the engine and any add-on control equipment, as applicable, to ensure that the engine and control equipment is operated in compliance with the provisions of this rule. Inspections shall be conducted at least once every 4,000 hours of operation, or every six months, whichever is less.
This requirement is included within the permit conditions.

Rule 69.4.1 (f) Inspection and Maintenance Requirements (2) requires an owner or operator of an engine subject to this rule to conduct, at a minimum, annual maintenance of the engine and any add-on control equipment, as applicable, as recommended by the engine and control equipment manufacturers or as specified by any other maintenance procedure approved in writing by the Air Pollution Control Officer. Notwithstanding the frequencies recommended by the engine and control equipment manufacturers, the annual maintenance shall be conducted at least once each calendar year. Engine maintenance shall include, but is not limited to, the following:
(i) Changing the oil and filter, or testing the oil in accordance with the requirements of 40 CFR Part 63, Sections 63.6625(i) or 63.6625(j);
(ii) Inspecting and cleaning air filters, and replacing as necessary;
(iii) Inspecting all hoses and belts, and replacing as necessary; and
(iv) Inspecting spark plugs, if equipped, and replacing as necessary.

Rule 69.4.1 (f) Inspection and Maintenance Requirements (3) Notwithstanding the frequencies specified in Subsections (f)(1) and (f)(2), the Air Pollution Control Officer may require an owner or operator of an engine to conduct inspections and/or maintenance of the engine and any associated add-on control equipment more frequently if deemed necessary to assure compliance with this rule.
These inspection and maintenance requirements are included in the permit conditions.

Rule 69.4.1 (g) Record Keeping Requirements (1) requires an owner or operator of an engine subject to this rule to keep the following records in electronic and/or hardcopy format and shall maintain these records on-site for at least the same period of time as the engine to which the records apply is located at the site:
(i) engine manufacturer name and model number;

(ii) brake horsepower rating;
(iii) combustion method, i.e., rich-burn or lean-burn;
(iv) fuel type(s);
(v) California Diesel Fuel certification, if applicable; and
(vi) a manual of recommended maintenance as provided by the engine manufacturer, or other maintenance procedure as approved in writing by the Air Pollution Control Officer.
Where the information specified in Subsections (g)(1)(i) through (g)(1)(iv) is contained in a District Permit to Operate, and is the most current information, an additional record of this information shall not be required.
Each engine's information is included with the permit equipment description. Permit conditions require maintaining a copy of the recommended maintenance procedure.

Rule 69.4.1 (g) Record Keeping Requirements (2) requires an owner or operator of an engine exempt pursuant to Subsections (b)(3) or (b)(4) to maintain, at a minimum, the following:
(i) an operating log containing dates and elapsed times of every instance of engine operation either based on actual readings of engine hour or fuel meter, or validated against such actual readings during owner or operator visits to unmanned sites only. In addition, an owner or operator of an emergency standby diesel engine located within 500 feet of school grounds shall also maintain the time of day of every instance of engine operation for testing or maintenance; except for an engine that emits no more than 0.01 g/bhp-hr of diesel particulate matter, or meets the requirements specified in 17 CCR, Section 93115.13(f). If applicable, indicate whether the operation was for testing or maintenance or during an emergency situation and the nature of the emergency, and maintain the following:
(A) for a total external power outage, documentation from the serving utility of an outage in the area where the engine is located;
(B) for an internal power outage, a description of what caused the failure, and receipts and/or work orders for the necessary repairs, as applicable; and
(C) for a partial external power outage, including a low-voltage or electric transient incident, in which the external power voltage is low enough to trigger the operation of an emergency standby engine, a description of the incident.
(ii) total cumulative hours of operation per calendar year; and
(iii) records of annual engine maintenance, including dates maintenance was performed and the nature of the maintenance.
These requirements are not applicable as none of the proposed engines are claiming an exemption from Sections (b)(3) or (b)(4) .

Rule 69.4.1 (g) Record Keeping Requirements (3) requires an owner or operator of an engine subject to this rule, except engines specified in Subsections (b)(3) or (b)(4), to maintain, at a minimum, the following:
(i) records of engine inspection, including dates an inspection was performed; and
(ii) records of annual engine maintenance, including dates maintenance was performed and the nature of the maintenance.
These requirements are included within the permit conditions.

Rule 69.4.1(g) Record Keeping Requirements (4) requires an owner or operator of an engine subject to this rule, except engines specified in Subsections (b)(3), (b)(4) or (e)(4), to measure

and record at least once each calendar month the applicable operating parameters identified pursuant to Subsections (e)(1) or (e)(2) on Monitoring requirements.
As stated above, each engine is not required to monitor the operating parameters identified in Subsections (e)(1) or (e)(2) since they are exempt pursuant to (b)(5).

Rule 69.4.1(g) Record Keeping Requirements (5) requires an owner or operator of any non-emergency engine claiming an exemption pursuant to Subsection (b)(2)(i) to maintain an operating log and record dates, times and duration of all startups and shutdowns.
None of the proposed engines are claiming exemption for startups and shutdowns pursuant to Subsection (b)(2)(i)

Rule 69.4.1(g) Record Keeping Requirements (6) requires an owner or operator of a new, modified, or replacement engine claiming an exemption pursuant to Subsection (b)(2)(ii) during commissioning period to comply with all of the following:
(i) Record and maintain the dates and times when fuel is being combusted and cumulative operating time for each new, modified, or replacement engine; and
(ii) Record and maintain any emissions data or other operating parameter data acquired or calculated by CEMS, or otherwise required by this rule for the engine.
None of the proposed engines are claiming exemption for commissioning pursuant to Subsection (b)(2)(ii).

Rule 69.4.1(g) Record Keeping Requirements (7) requires an owner or operator of an engine subject to the requirements of Subsection (e)(3) to provide written notification to the Air Pollution Control Officer within 10 calendar days of replacing the engine hour meter. The notification shall include the following:
(i) Old meter's hour reading upon removal;
(ii) Replacement meter's manufacturer name, model, and serial number, if available;
(iii) Current hour reading of the replacement meter upon installation;
(iv) Copy of receipt of new meter, or of installation work order.
This requirement is included within the permit conditions.

Rule 69.4.1(g) Record Keeping Requirements (8) requires an owner or operator of an engine subject to the requirements of Subsection (e)(5) [portable analyzer requirements] to comply with specified recordkeeping.
The proposed engines are not subject to (e)(5) since they do not use gaseous fuel.

Rule 69.4.1(g) Record Keeping Requirements (9) requires all records required by Subsections (g)(2) through (g)(7) to be retained in electronic and/or hardcopy format on-site for at least three years and made available to the District upon request.
This requirement is included within the permit conditions.

Rule 69.4.1(g) Record Keeping Requirements (10) requires all records required by Subsection (g)(8) to be retained in electronic and/or hardcopy format on-site, or off-site in a central location, for at least three years and made available to the District upon request.
The proposed engines are not subject to (g)(8) or (e)(5) because they are not gaseous fueled engines.

Rule 69.4.1(i) Source Test Requirements (1) requires that after initial compliance has been determined, any engine subject to the requirements of Subsection (d)(1), except engines specified in Subsections (b)(3), (b)(4), (b)(7), or (i)(2), shall be source tested at least once every 2 permit years, unless more frequent testing is otherwise specified in writing by the Air Pollution Control Officer.
The proposed engines are exempt from source test requirements in accordance with Subsection (b)(7) as an engine certified by the EPA.

4.2 New Source Review (NSR) Rule 20.1-20.4
Rule 20.1 – New Source Review - General Provisions
Federal Major Stationary Source: Rule 20.1(c) Definitions (30) defines Major Stationary Source as any emission unit, project or stationary source which has, or will have after issuance of an Authority to Construct or modified Permit to Operate, an aggregate potential to emit one or more air contaminants in amounts equal to or greater than any of the emission rates listed in Table 5.

Major Stationary Source: Rule 20.1(c) Definitions (41) defines major stationary source as any emission unit, project or stationary source which has, or will have after issuance of an Authority to Construct or modified Permit to Operate an aggregate potential to emit one or more air contaminants, including fugitive emissions, in amounts equal to or greater than any of the emission rates listed in Table 5.

Table 8: Classification of Major/PSD Source and Modification New Source Review (NSR) Requirements

	NOx	VOC	PM-10	PM-2.5	SOx	CO	Lead
Major Source Threshold (ton/year)	*50*	*50*	*100*	*100*	*100*	*100*	*100*
Major Source? (yes/no)	***No***	***No***	***No***	***No***	***No***	***No***	***No***
Major Modification Threshold (ton/year)	*25*	*25*	*15*	*10*	*40*	*100*	*0.6*
Major Modification at a Major Source?	***No***	***No***	***No***	***No***	***No***	***No***	***No***
Contemporaneous Calculations Performed?	**No**	**No**	**No**	**No**	**No**	**No**	**No**
Federal Major Stationary Source Threshold (ton/year) (Severe non-attainment status)	25	25	100	100	100	100	100
Federal Major Stationary Source?	**No**	**No**	**No**	**No**	**No**	**No**	**No**
Federal Major Modification Threshold (ton/year) (Severe non-attainment status)	*25*	*25*	*15*	*10*	*40*	*100*	*0.6*
Federal Major Modification?	***No***	***No***	***No***	***No***	***No***	***No***	***No***
Contemporaneous Net Calculations Performed	***No***	***No***	***No***	***No***	***No***	***No***	***No***
PSD Threshold (ton/year)	*250*	*250*	*250*	*--*	*250*	*250*	*--*
PSD Modification Threshold (ton/year)	*40*	*40*	*15*	*--*	*40*	*100*	*0.6*
PSD New or Modification?	**No**	**No**	**No**	**No**	**No**	**No**	**No**

This site is considered a non-major stationary source, for each pollutant, as shown in the following table, and is therefore subject to District Rule 20.2. Calculation of emissions and

determination of applicable requirements is performed in accordance with District Rule(s) 20.1 through 20.3. District Rule 20.2 contains requirements for Best Available Control Technology (BACT), Air Quality Impact Assessment (AQIA), Prevention of Significant Deterioration (PSD) and public notification.

Best Available Control Technology

Rule 20.2(d) Standards (1) Best Available Control Technology (i) requires any new or modified emission unit with a post-project potential to emit of 10 lbs per day or more of particulate matter (PM), NOx, VOC, SOx to be equipped with Best Available Control Technology (BACT) for each such air contaminant.

The combined emissions of the two identical 779 bhp engines emit higher emissions than the combined emissions of additional engine #3 and #4, so when evaluating for BACT the higher emitting engines will be utilized. The proposed engines do not trigger BACT. Each of the proposed engines are tier 4 certified which is the next most stringent emission limit and therefore BACT is satisfied.

Air Quality Impact Analysis

Rule 20.2 (d) Standards (2) Air Quality Impact Analysis (i) requires any new or modified unit which results in emissions increase equal to or greater than the amounts listed below to perform an Air Quality Impact Analysis to demonstrate that such emissions increase will not: (1) cause a violation of a national ambient air quality standard anywhere that does not already exceed such standard, nor (2) cause additional violations of a national ambient air quality standard anywhere the standard is already being exceeded, nor (3) prevent or interfere with the attainment or maintenance of any national ambient air quality standard.

Particulate Matter (PM): 100 lbs/day, 15 tpy
NOx: 25 lbs/hour, 250 lbs/day, 40 tpy
SOx: 25 lbs/hour, 250 lbs/day, 40 tpy
CO: 100 lbs/hour, 550 lbs/day, 100 tpy
Lead and lead compounds: 3.2 lbs/day, 0.6 tpy

Emission increases from this project do not trigger AQIA.

Significant Impact in Class I Areas

Rule 20.2(d) Standards (3) Significant Impact in Class I Areas requires the Air Pollution Control Officer to not issue an Authority to Construct or modified Permit to Operate for any emission unit or project which is expected to have a significant impact on any Class I area, as determined by an AQIA, without satisfying the requirements for Federal Land Manager and Federal EPA notification as well as ARB, SCAQMD and Imperial County APCD Notification.

This application does not trigger AQIA.

Public Notice and Comment

Rule 20.2 (d) Standards (4) Public Notice and Comment requires any emission unit or project subject to the AQIA or notification requirements or for any emission unit or project which results in an emissions increase of VOCs equal to or greater than 250 pounds per day or 40 tons per year to: (A) provide the public with notice of the proposed action in the manner prescribed by Subsection (d)(4)(iii), and (B) provide a copy of the public notice to the federal EPA Administrator, through its Region 9 office, to the California ARB and to any tribal air pollution

control agencies having jurisdiction in the San Diego Air Basin, and (C) make available for public inspection all information relevant to the proposed action as specified in Subsection (d)(4)(iv), and

(D) provide at least a 30-day period within which comments may be submitted.to go through a 30-day public notice and comment period for any applications which require an AQIA under Sections d(2) or d(3).

With no AQIA required, public notification and comment period are not required for this application.

4.3 Toxic New Source Review

Rule 1200 applies to any new, relocated, or modified emission unit which results in any increased emissions of one or more toxic air contaminant(s), and for which an Authority to Construct or Permit to Operate is required.

Rule 1200 applies to the each of the proposed engines as they are new installations and result in an emissions increase.

Rule 1200 (d) Standards (1) Cancer Risk (ii) T-BACT Applied: requires that the maximum cancer risk increase to be equal or less than 10 in one million for any project.

Rule 1200 is applicable as there is an increase in hourly or yearly emissions. This project is T-BACT for the reasons presented in the BACT calculation section and the following:

The haul roads are subject to the most stringent condition limiting emissions and can be achieved through a variety of means such as watering and chemical stabilization.

The most stringent control for the engines would be electrification. However, this is not technologically feasible at this time for this project because the equipment needs to be able to be moved routinely. The next highest level of control are tier 4 engines which are proposed and therefore meet T-BACT.

Aggregate equipment (crushers, screens, conveyors) are subject to the opacity standards of NSPS OOO for new equipment and since no higher levels of control are expected to be feasible and these targets can be achieved through the proposed high pressure water sprays, the equipment meets T-BACT requirements.

Finally, other fugitive emission sources are subject to 20% opacity limits and watering requirements. No higher levels of control were identified for these sources and the permit will also provide for conditions that would further restrict PM emissions (via opacity as a proxy), if it is demonstrated that the proposed T-BACT controls achieve these reductions.

This means that the increase in maximum incremental cancer risk at every receptor location must be equal to or less than 10 in one million, and equal to or less than 1 for Chronic and Acute.

Estimated Maximum Risk Levels:

Maximum Individual Cancer Risk (Resident)	8.77 in one million
Maximum Individual Cancer Risk (Worker)	1.00 in one million
Chronic Noncancer Health Hazard Index (Resident)	= 0.378
Chronic Noncancer Health Hazard Index (Worker)	= 0.608
Acute Health Hazard Index (PMI)	= 0.316

The initial HRA did not show results below 10 in one million, and therefore results were reanalyzed, including the assumption that no operation would occur between 6 PM and 6 AM. After reanalysis, this project meets Rule 1200 standards. Permit conditions will require that no operation occurs between 6 PM and 6 AM, and will require records to substantiate this.After the reanalysis, additional engines were proposed to operate under the same permits. These engines will not operate simultaneously with the identical 779 bhp engines evaluated in the HRA. The combined emissions of the two identical 779 bhp engines emit higher than the combined emissions of additional engine #3 and #4, therefore they do not result in increased emissions beyond what was assessed. Permit conditions will require that they do not operate simultaneously and maintain a log of engine specifications identifying EPA family, serial number, horsepower, and meet 0.01 lbs/hr of PM.

4.4 AB3205

Requirements in the California Health and Safety Code in sections 42301.6 through 42301.9 (a.k.a. "AB3205 requirements") specify that prior to issuing an authority to construct for sources located within 1000 feet of a K-12 school, a 30-day public notification process must be conducted.

This project is located within 1000 feet of a school, so a public notice is required for this section. This section shall remain open for comments received.

4.5 State and Federal Regulations

Each proposed engine is subject to the Airborne Toxic Control Measure (ATCM) for Portable Engines Rated at 50 bhp and greater.

(Section 93116.3, Title 17, California Code of Regulations – Requirements)

a. Fuel and Fuel Additive Requirements:

Section § 93116.3 (a) requires diesel-fueled portable engines to use (1) CARB Diesel Fuel; or (2) an alternative diesel fuel that has been verified through the Verification Procedure for In-Use Strategies to Control Emissions from Diesel Engines; or (3) CARB diesel fuel utilizing fuel additives that have been verified through the Verification Procedure.

The proposed engines are required to use only CARB Diesel Fuel.

b. Diesel PM Standards:

Section §93116.3(b)(1) requires that all portable diesel-fueled engines be certified to meet a federal or California standard for newly manufactured engines pursuant to 40 CFR Part 89, Part 86, or the equivalent categories in Title 13 of the California Code of Regulations.

The proposed engines are EPA certified engines. Compliance with this requirement is required by permit conditions and verified through recordkeeping and periodic inspections.

Section §93116.3(b)(2) requires that Portable diesel-fueled engines that have not been permitted or registered prior to November 30, 2018 to not be permitted or registered unless they are certified to the most stringent standard contained in the federal or California emission standards for nonroad engines, with the following exception in Subsection (E)(2): For Tier 1, Tier 2, and Tier 3 engines only, the engine shall have operated in California at any time prior to January 1, 2017. The responsible official shall provide documentation to prove the engine's operation to the satisfaction of the Air Pollution Control Officer.

Use of tier 4 final engines satisfies this requirement.

Section §93116.3(b)(3) requires a fleet to not newly designate an engine to be low-use or emergency-use after the dates listed in the schedule below. The schedule applies to flexibility engines according to the tier level to which the engine was built.

Engine Certification	Engines rated 50 to 750 bhp		Engines rated >750 bhp
	Large Fleet	Small Fleet	
Tier 1	7/1/2019	7/1/2019	7/1/2021
Tier 2 built prior to 1/1/2009	7/1/2021	7/1/2022	7/1/2024
Tier 2 built on or after 1/1/2009	NA	NA	7/1/2026

Use of tier 4 final engines satisfies this requirement.

c. Fleet Requirements

Section § 93116.3(c)(1)(A) indicates that except as provided in section 93116.3(c)(2), engines may not operate in California on or after the dates listed in the following schedule:

Engine Certification	Engine rated 50-750 bhp		Engines rated >750 bhp
	Large Fleet	Small Fleet	
Tier 1	1/1/2020	1/1/2020	1/1/2022
Tier 2 built prior to 1/1/2009	1/1/2022	1/1/2023	1/1/2025
Tier 2 built on or after 1/1/2009	NA	NA	1/1/2027
Tier 3 built prior to 1/1/2009	1/1/2025	1/1/2027	NA
Tier 3 built on or after 1/1/2009	1/1/2027	1/1/2029	NA
Tier 1, 2, and 3 flexibility engines	December 31 of the year 17 years after the date of manufacture. This provision shall not apply to any engine operation before the effective date of this regulation		

Section § 93116.3(c)(1)(B) states that fleets complying with the above schedule must include all portable diesel-fueled engines operated in California.
Use of tier 4 final engines satisfies this requirement.

Section § 93116.3(c)(2) indicates that for large fleets that elect not to comply with section 93116.3(c)(1), then the fleet must comply with the following weighted PM emission fleet averages expressed as grams per brake horsepower-hour (g/bhp-hr) by the listed compliance dates:

Compliance Date	Fleet PM Standard
1/1/2020	0.10
1/1/2023	0.06
1/1/2027	0.03

Use of tier 4 final engines satisfies this requirement.

Section § 93116.3(c)(4) states that portable diesel-fueled engines equipped with a properly functioning level-3 verified technology are excluded from the requirements in section (c)(1).
As Tier 4 certified engines, they comply with fleet standards.

Section § 93116.3(c)(7) states that beginning on January 1, 2020, the weighted average PM emission rate for a large fleet electing to comply with section (c)(2) must not exceed the fleet standard that is in effect, even during the years between and after the fleet standard effective dates.
As Tier 4 certified engines, they comply with fleet standards.

d. Fleet Recordkeeping and Reporting Requirements
Section § 93116.4(a) states that owner or operator of a fleet is not subject to the requirements of this section if each portable diesel-fueled engine in the fleet satisfies any one of the following requirements: (1) the portable diesel-fueled engine is certified to Tier 4 interim or Tier 4 final emission standards for newly manufactured nonroad engines; or (2) The portable diesel-fueled engine is equipped with a properly functioning level-3 verified technology.
As Tier 4 final certified engines, the engines are not subject to these requirements

Section § 93116.4 (e) requires that for fleets that are exempted from the requirements of section 93116.4 pursuant to section 93116.4 (a), the Responsible Official must certify that all portable diesel-fueled engines in the fleet satisfy the requirements of section 93116.4(a). The Responsible Official must provide the certification statement and a list of the portable diesel-fueled engines in the fleet to the Executive Officer when the fleet initially satisfies the requirements of section 93116.4(a). The list of engines must identify the serial number, and district permit or State/district registration number for each engine.
Certification statements and serial numbers were provided for each of the proposed tier 4 final engines.

4.6 Title V.
This is not a Title V facility therefore this requirement does not apply.

5.0 Recommendations
This equipment is expected to comply with all rules and regulations, and therefore it is recommended, that an authority to construct be issued with the following conditions.

6.0 Recommended Conditions
BEC APCD2019-CON-001570 is recommended as the Authority to Construct conditions with C45231 modified to reflect this site's requested operations and the following revised conditions.

New 1: Total combined engine operation under this permit shall not exceed 3000 hours per calendar year, as evidenced by operational log records. (Rule 20.2, Rule 1200)

New 2: The engine operating under this permit shall only operate daily between 6:00 am and 6:00 pm. Records of the engine's daily operating start time and end time shall be maintained on a daily basis and made available upon request. (Rule 20.2, Rule 1200)

New 3: For each engine operating under this permit, the owner or operator shall comply with all requirements of 17 CCR 93116 (Portable ATCM) including:

a. If the engine is part of a fleet which contains engines not exempt in accordance with 17 CCR 93116.4(a), it shall be registered with the California Air Resources Board (CARB) as part of a fleet and the owner or operator shall comply with the recordkeeping and reporting provisions of 17 CCR 93116.4(b) and (d).
b. If the engine is part of a large fleet for which the responsible official elects to comply with the 17 CCR 93116.3(c)(2) fleet averaging standards, the fleet shall meet the applicable PM emission rate in effect based on the current calendar year.
c. If the engine is sold within California, the seller must provide the following disclosure in writing to the buyer as part of the sales transaction: When operated in California, any portable diesel engine may be subject to the California Air Resources Board Airborne Toxic Control Measure For Diesel Particulate Matter From Portable Engines Rated At 50 Horsepower And Greater. It therefore could be subject to retrofit or accelerated turnover requirements to reduce emissions of air pollutants. For more information, please visit the California Air Resources Board website at http://www.arb.ca.gov/portable/portable.htm. (17 CCR 93116)

New 4: Each engine operating under this permit shall only use CARB diesel fuel. (Rule 12, Rule 69.4.1, 17 CCR 93115, 40 CFR 60 Subpart IIII)

New 5: A non-resettable engine hour meter shall be installed on each engine operating under this permit, maintained in good working order, and used for recording engine operation hours. If a meter is replaced, the Air Pollution Control District's Compliance Division shall be notified in writing within 10 calendar days. The written notification shall include the following information:
(a) old meter's hour reading,
(b) replacement meter's manufacturer name, model and serial number if available and current hour reading on replacement meter, and
(c) copy of receipt of new meter or of installation work order.
A copy of the meter replacement notification shall be maintained onsite and made available to the Air Pollution Control District upon request.
(Rule 12, Rule 69.4.1, 17 CCR 93115, 40 CFR 60 Subpart IIII, 40 CFR 63 Subpart ZZZZ)
New 6: The owner or operator of each engine operating under this permit shall conduct periodic inspections of the engine and add-on control equipment, if any, as recommended by the engine and control equipment manufacturers or as specified by the engine servicing company's maintenance procedures. The periodic inspections shall be conducted at least once every 4000 hours of operation, or every six months, whichever occurs first. (Rule 69.4.1)

New 7: The owner or operator of each engine operating under this permit shall conduct periodic maintenance of the engine and add-on control equipment, if any, as recommended by the engine and control equipment manufacturers or as specified by the engine servicing company's maintenance procedures. Maintenance shall be conducted at least once each calendar year, and shall include, but is not limited to, the following:
1) Change oil and filter, or test in accordance with the requirements of 40 CFR §63.6625(i) or (j);
2) Inspect and clean air filters, replacing as necessary; and
3) Inspect all hoses and belts, replacing as necessary.
Documentation of oil and filter changes or copies of the oil test analysis shall be kept on site and made available upon request. If testing in accordance with 40 CFR §63.6625(i) or (j), the oil

analysis program must analyze the Total Base Number, viscosity and percent water content (for compression ignition engines) and the Total Acid Number, viscosity and percent water content (for spark ignited engines). If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 business days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 business days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine.
(Rule 12, Rule 69.4.1, 40 CFR 63 Subpart ZZZZ)

New 8: The owner or operator of each engine operating under this permit shall maintain a manual of recommended maintenance provided by the manufacturer, or maintenance procedures specified by the engine servicing company on site for at least the same period of time as the engine to which the records apply is located at the site. [Rule 69.4.1]

New 9: The owner or operator of each engine operating under this permit shall maintain records of periodic inspection and maintenance of the engine and control equipment, including dates inspection and maintenance were performed. [Rule 69.4.1]

New 10: The owner or operator of each engine operating under this permit shall maintain the following records on site for at least the same period of time as the engine to which the records apply is located at the site:
(a) documentation shall be maintained identifying the fuel as CARB diesel.
(b) manual of recommended maintenance provided by the manufacturer, or maintenance procedures specified by the engine servicing company; and
(c) records of annual engine maintenance including date the maintenance was performed.
These records shall be made available to the Air Pollution Control District upon request.
(Rule 69.4.1)(17 CCR 93115)

New 11: Each engine operating under this permit that is not listed specifically in the equipment description shall have a Maximum PM emission rate of no greater than 0.01 lbs/hr calculated according to the provisions of this permit.
(Rule 1200)

New 12: The owner or operator of each engine operating under this permit shall maintain records of engine specifications identifying:
a. EPA or CARB family and certified PM emission factor (g/bhp-hr);
b. Make, Model and Engine Serial number; and
c. Horsepower
d. Maximum Diesel PM emission rate, calculated using the maximum engine power rating and EPA or CARB PM emission factor (lb/hr)
(Rule 1200, Rule 20.2)